AMENDMENTS TO THE CLAIMS

Please amend the Claims as follows:

1. **(Currently Amended)** A computer-based method comprising the steps of:

a. converting a mark-up language document to a logical tree-based representation comprising a plurality of nodes, each node other than a root node having a local identifier,

b. choosing an initial base length of at least one byte with which to encode local identifiers of said nodes,

c. sequentially encoding each local identifier other than said root node in hexadecimal notation starting with an initial hexadecimal value and incrementing the initial hexadecimal value by said initial base length,

d. adaptively extending said initial base length by at least one additional byte upon exhausting all incremental hexadecimal values based on said initial base length,

~~a.~~e. encoding at least one local identifier other than said root node and a node not encoded in step (c) based on said extended base length,

~~b. assigning a value of zero as a node identifier to a root node in a logical tree,~~

~~c. sequentially assigning to descendants of a root node a local identifier having an even value and a length equal to said base length chosen in said choosing step, wherein said local identifiers are assigned in increasing value from leftmost children to rightmost children,~~

~~d.~~f. assigning node identifiers to said plurality of nodes other than said root node by concatenating encoded values of local identifiers of all nodes along a path from ~~a~~ said root node to a node to which a node identifier is currently being assigned, and

~~e.~~g. outputting and storing said node identifiers associated with said nodes of said mark-up language document in computer storage~~extending said initial base length when local~~

~~identifier encoding combinations are exhausted before all descendants are assigned local identifiers~~.

2. (Previously Presented) The computer-based method of claim 1, wherein inserting a node into an existing tree does not require change to existing node identifiers.

3. (Previously Presented) The computer-based method of claim 1, wherein a node is inserted between a first node and a second node having consecutive local identifiers.

4. (Previously Presented) The computer-based method of claim 3, wherein said inserted node is assigned a local identifier having a string length longer than string length of said first node.

5. (Canceled).

6. (Canceled).

7. (Canceled).

8. (Canceled).

9. (Currently Amended) An article of manufacture, said article of manufacture comprising a computer readable storage medium having computer readable program code embodied therein, said computer readable program code comprising modules being executed by a computer comprising modules implementing code to:

a. converting a mark-up language document to a logical tree-based representation comprising a plurality of nodes, each node other than a root node having a local identifier,

b. choose an initial base length of at least one byte with which to encode local identifiers of said nodes,

c. sequentially encoding each local identifier other than said root node in hexadecimal notation starting with an initial hexadecimal value and incrementing the initial hexadecimal value by said initial base length,

d. adaptively extending said initial base length by at least one additional byte upon exhausting all incremental hexadecimal values based on said initial base length,

~~a.~~e. encoding at least one local identifier other than said root node and a node not encoded in step (c) based on said extended base length,

~~b. assign a value of zero as a node identifier to a root node in a logical tree,~~

~~c. sequentially assign to descendants of a root node a local identifier having an even value and a length equal to said base length chosen in said choosing step, wherein said local identifiers are assigned in increasing value from leftmost children to rightmost children,~~

~~d.~~f. ~~assign~~ assigning node identifiers to said plurality of nodes other than said root node by concatenating encoded values of local identifiers of all nodes along a path from ~~a~~ said root node to a node to which a node identifier is currently being assigned, and

~~e.~~g. outputting and storing said node identifiers associated with said nodes of said mark-up language document in computer storage~~extend said initial base length when local identifier encoding combinations are exhausted before all descendants are assigned local identifiers~~.

10. (Canceled).

11. (Canceled).

12. (Canceled).

13. (Canceled).

14. (Previously Presented) The computer-based method of claim 1, wherein said assigned local identifiers are assigned values based on variable-length binary string encoding.

15. (Previously Presented) The article of manufacture of claim 9, wherein said assigned local identifiers are assigned values based on variable-length binary string encoding.

16. (Currently Amended) A computer-based method comprising the steps of:

a. choosing an initial base length of at least one byte with which to encode local identifiers of nodes of a logical tree-based representation of an XML document,

b. assigning a value of zero as a node identifier to a root node in a logical tree,

c. sequentially encoding each local identifier other than said root node in hexadecimal notation starting with an initial hexadecimal value and incrementing the initial hexadecimal value by said initial base length~~assigning to descendants of a root node a local identifier having an even value and a length equal to said base length chosen in said choosing step, wherein said local identifiers are assigned said even values based on variable length binary string encoding and said local identifiers are assigned in increasing value from leftmost children to rightmost children~~,

~~d. assigning node identifiers by concatenating local identifiers of all nodes along a path from a root node to a node to which a node identifier is currently being assigned, and~~

d. adaptively extending said initial base length by at least one additional byte upon exhausting all incremental hexadecimal values based on said initial base length~~said initial base~~

~~length when local identifier encoding combinations are exhausted before all descendants are assigned local identifiers.~~

e. encoding at least one local identifier other than said root node and a node not encoded in step (c) based on said extended base length,,

f. assigning node identifiers to said plurality of nodes other than said root node by concatenating encoded values of local identifiers of all nodes along a path from said root node to a node to which a node identifier is currently being assigned, and

g. outputting and storing said node identifiers associated with said nodes of said XML document in computer storage.

17. (**New**) The method of claim 1, wherein said markup-language document is an XML document.

18. (**New**) The method of claim 1, wherein encoding lengths are selected based on statistics defining a maximum number of descendants associated with any given node.

19. (**New**) The article of manufacture of claim 9, wherein said markup-language document is an XML document.

20. (**New**) The article of manufacture of claim 1, wherein encoding lengths are selected based on statistics defining a maximum number of descendants associated with any given node.